Jeffrey C. Fereday (Idaho State Bar # 2719)
Michael C. Creamer (Idaho State Bar # 4030)
GIVENS PURSLEY LLP
601 Bannock Street, Suite 200
P.O. Box 2720
Boise, ID 83701-2720
Telephone: (208) 388-1200
Facsimile: (208) 388-1300

Attorneys for Idaho Ground Water Appropriators, Inc.

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF DISTRIBUTION OF WATER TO WATER RIGHT NOS. 36-02356A, 36-07210 AND 36-07427	**GROUND WATER DISTRICTS' PLAN FOR PROVIDING REPLACEMENT WATER (BLUE LAKES DELIVERY CALL)**

Idaho Ground Water Appropriators, Inc. ("IGWA"), through its counsel Givens Pursley LLP and on behalf of its ground water district members, Magic Valley Ground Water District and North Snake Ground Water District (the "Ground Water Districts"), pursuant to the Director's May 19, 2005 Order in the above-captioned matter ("Order"), hereby files with the Director, Idaho Department of Water Resources ("Director") the following Plan for Providing Replacement Water ("Replacement Water Plan").

INTRODUCTION

This Replacement Water Plan fulfills the requirements in paragraphs 1 and 3, pages 28-29 of the Director's Order, which Order addresses a delivery call made by Blue Lakes Trout Farm, Inc. Paragraph 1 at Page 28 of the Order requires ground water districts within Water

District 130 representing holders of ground water rights for consumptive uses having priority dates later than December 28, 1973 that the Director deems to be causing material injury to water right no. 36-07427 to provide mitigation by providing "a replacement water supply . . . from suitably documented conversions from ground water irrigation to surface water irrigation, using the Department's ground water model for the ESPA." Paragraph 3 at Page 29 of the Order provides that the ground water districts also may submit a plan

> to forego (curtail) consumptive uses authorized under the affected water rights or other water rights beginning on June 7, 2005, over a period of not more than five years ("substitute curtailment") and continuing until further order of the Director so long as full beneficial use was made under the foregone rights in the prior year or use under the rights was foregone in the prior year for purposes of mitigation for which credits for mitigation to the Devils Washbowl to Buhl Gage spring reach have not otherwise been granted.

This Plan documents how the Ground Water Districts will comply with the Order's phased-in requirements intended to increase spring flows in the Devil's Washbowl to Buhl Gage spring reach ("Devils Washbowl Subreach"). This will be accomplished through continued deliveries of surface water irrigation through the North Side Canal Company ("NSCC") system to converted acres within Water District 130 ("Conversions"), continued deliveries of surface water through the NSCC system to the Sandy Pipeline Ponds, and through a voluntary curtailment of irrigation of up to ten percent of ground water-irrigated acres by Ground Water District members within Water District 130 in 2005, followed by the incremental substitution of curtailments of ground water irrigation via the Conservation Reserve Enhancement Program ("CREP") beginning in 2006.

The modeled steady state reach gain to the Devils Washbowl Subreach attributable to these activities is estimated to be from 56.9 to 77.6 cubic feet per second ("cfs"), depending on

whether the CREP implementation results in a distributed enrollment or is concentrated closer to the Snake River ("near river"). Modeled current-year (2005) reach gains in the Devils Washbowl Subreach attributable to Ground Water District actions will be 15.6 cfs, which includes 4.9 cfs of residual reach gain benefits attributable to prior year mitigation actions by the Ground Water Districts.

REPLACEMENT WATER PLAN

A. Replacement water to be provided in 2005 – Steady State and Transient Reach Gains from Surface Water Deliveries to Conversions and Sandy Pipeline Ponds.

On behalf of its member ground water districts, IGWA has obtained, or is obtaining, surface water supplies in excess of 87,000 acre-feet ("AF") to be available in 2005 for direct delivery or by exchange to points of diversion above Milner Dam, including NSCC's point of diversion. The quantities and sources of this water are documented in Attachment A hereto. Supporting information concerning these supplies was filed with the Department on April 29, 2005 and May 23, 2005.

During the 2005 irrigation season, the Ground Water Districts propose to have up to 45,000 AF of surface water available for delivery through the NSCC system. This surface water will be used to irrigate those lands within the North Snake Ground Water District whose supply source has been converted from ground water to surface water. This surface water also will be used to provide a water supply to the Sandy Pipeline Project. The NSGWD Conversions, their locations, and historical deliveries are described in Attachment B hereto.[1]

[1]The tables in Attachment B have been transcribed from records maintained by the North Snake Ground Water District and the North Side Canal Company.

Steady State Reach Gains.

The Department's ground water model for the ESPA ("ESPA Model") indicates that, at steady state, 7.1 cubic feet per second ("cfs") of reach gain will accrue to the Devil's Washbowl Subreach as a result of canal seepage from the deliveries in 2005 to Conversions and to the Sandy Pipeline Ponds. The ESPA Model predicts an additional 11.3 cfs steady state gain to the Devils Washbowl Subreach attributable to foregone pumping (i.e., voluntary curtailment) and application of surface water at the Conversion sites themselves in 2005. Attachment C hereto, describes the data analysis supporting these ESPA Model runs. The supporting data files are contained on the attached compact disc filed with this Plan.

Transient Reach Gains (2005).

With regard to effects in the 2005 irrigation season, the ESPA Model predicts that surface water delivery and application at the Conversion sites in 2005 will produce 7.8 cfs of reach gains[2] to the Devil's Washbowl Subreach in 2005. Canal seepage associated with surface water deliveries to the Conversions and to the Sandy Pipeline Project in 2005 is projected by the ESPA Model to produce an additional 2.9 cfs of reach gain to the Devils Washbowl Subreach in 2005. The combined 2005 reach gain increase attributable to the above-described actions is 10.7 cfs. Supporting documentation concerning this 2005 reach gain is attached as Attachment D.

Residual Reach Gains. The modeled residual reach gain in 2005 (i.e., reach gains accruing to the Devils Washbowl Subreach in 2005 attributable to Ground Water District mitigation activities under interim agreements approved as effectively operating mitigation plans in prior years—canal seepage, foregone pumping/surface water irrigation at Conversions and

[2] A "transient" reach gain is one measured over a specified period of time (such as the current irrigation season), rather than at steady state.

percentage reductions in ground water pumping) is 4.9 cfs. Attachment E, hereto contains the supporting documentation for this transient analysis.

Therefore, the total modeled transient reach gain to the Devils Washbowl Subreach in 2005 resulting from Ground Water District mitigation actions in 2005 and prior years is 15.6 cfs.

B. Steady State Reach Gains from Additional Voluntary Curtailment of Ground Water Irrigation Pumping in 2005.

During the 2005 irrigation season, the Ground Water Districts are implementing a voluntary reduction in ground water-irrigated acres by District members in Water District 130 not to exceed ten percent. Both Districts are requesting, through written notices, that all district members reduce their ground water irrigated acres by ten percent as compared to their 2004 irrigated acreage, and provide documentation to the Districts by July 1of all reductions undertaken. The Districts will make this documentation available to the Water District 130 Watermaster and interested parties. Reach gains predicted to result from these voluntary reductions will be additive to the steady state and transient reach gains described above.

Reach gain analysis using the Department's ESPA Model indicates that a voluntary ten percent curtailment in irrigation pumping by all ground water district members in Water District 130 will produce a steady state reach gain of 14.8 cfs to the Devil's Washbowl Subreach. Actual reach gain increases attributable to curtailments in 2005 will be quantified to reflect the level of 2005 member compliance with the Districts' request. If a maximum ten percent curtailment is achieved in 2005, then the total steady state reach gain to the Devil's Washbowl Subreach attributable to surface water deliveries to conversions, the Sandy Pipeline Project, and curtailment will be 33.2 cfs.

C. Steady State Reach Gains from Additional Curtailment of Ground Water Irrigation Pumping Resulting From CREP Implementation.

The Ground Water Districts, in conjunction with IGWA and its other Ground Water District and Irrigation District members, intend to implement a Conservation Reserve Enhancement Program ("CREP") with a potential for ESPA-wide participation of up to 100,000 acres. The Idaho Governor's Office, with IGWA's cooperation, has applied for federal approval of a 100,000 acre CREP program for southern Idaho. CREP is proposed to be initiated in 2006, and is expected to achieve full enrollment by 2008. CREP acres will substitute for, and ultimately are expected to exceed, ground water-irrigated acres voluntarily curtailed in Water District 130 in 2005 and those that otherwise might be required to be curtailed in subsequent years to meet any phased-in mitigation requirement of the Order.

The ESPA Model indicates steady state gains of 38.5 cfs and 59.2 cfs, respectively, to the Devils Washbowl Subreach attributable to a distributed and near-river CREP program. Combined with steady state reach gain benefits from surface water deliveries to Conversions and the Sandy Pipeline Project, the reach gain in the Devils Washbowl Subreach totals from 56.9 to 77.6 cfs beginning in 2008. *See* Attachment F.

D. Other Ground Water District Activities in 2005.

The Ground Water Districts may participate in "opportunistic," targeted recharge activities in 2005 if and as water may be available under existing water rights to be delivered to approved recharges sites. To the extent that the Ground Water Districts do participate is such activities that participation and the modeled benefits to reach gains attributable to such activities will be included in the accounting described below.

E. Accounting.

The Districts, in cooperation with the Department, will establish an ongoing, year-to-year accounting protocol to accurately record and document the quantities of replacement water and curtailment benefits delivered from implementation of the actions described above and additional actions that the Districts may implement over time. Among other things, this accounting system will document:

a. All surface water acquired and provided as direct replacement water, as a substitute supply to Conversions or as recharge in any given year, and all incidental recharge benefits associated therewith.

b. Supplemental deliveries required as, or resulting from, mitigation to senior surface water right holders diverting above Milner, which supplemental deliveries will result in canal seepage and recharge that increases reach gains in the Thousand Springs Reach, including the Devils Washbowl Subreach.

c. Locations and extent of curtailments of ground water diversions by District members.

d. Locations and extent of ground water irrigation by district members.

e. Locations and extent of dry-year leases of surface water- or ground water-irrigated acres.

f. Locations of aquifer recharge projects undertaken specifically by the Districts, directly, contractually or incidentally, and the quantities of water delivered to such projects.

g. Carryover of any credits from implementing strategies that have multi-year water supply benefits, including long-term components of this Plan such as CREP.

h. Allocation of transient and steady state impacts of mitigation actions.

F. <u>Monitoring.</u>

The Districts will cooperate with the Department and the Water District 130 Watermaster in verifying and monitoring compliance with this Plan. The Districts propose the following monitoring actions:

a. The Districts, through District Hydrographers, will continue to measure and report ground water withdrawals within their boundaries.

b. The Districts, through District Hydrographers, will cooperate with the Water District 130 Watermaster to identify unauthorized uses of ground water within their respective jurisdictions.

c. The Districts will cooperate with the Water District 130 Watermaster to measure and document all water supplies delivered to actions described in this Plan.

d. The Districts, through District Hydrographers, will coordinate and compile documentation on an annual basis concerning all ground water-irrigated acres for which ground water diversions are to be curtailed and/or which are enrolled in CREP or other set-aside programs.

G. Adaptive Management.

The Ground Water Districts intend to incorporate an adaptive management into their long-range water management and/or mitigation planning. The increased level of monitoring, documentation and accounting to be implemented by the Ground Water Districts will permit them, in cooperation with the Department, to improve management policies and actions.

H. Reservation of Rights.

By submitting this Plan, neither IGWA nor the Ground Water Districts or their indvidual members, concede that the Order's findings and conclusions, including those concerning material injury and required mitigation, accurately determines impacts or injury from ground water pumping or the appropriate obligations of ground water users under Idaho law. IGWA and the Ground Water Districts do not concede that the Order comports with applicable legal standards, nor do they waive their right to seek reconsideration, a hearing before the Department, judicial review, or any other available remedies.

DATED this 27th day of May 2005.

GIVENS PURSLEY LLP

By: _____
Michael C. Creamer
Attorneys for Idaho Ground Water Appropriators, Inc.

CERTIFICATE OF SERVICE

I hereby certify that on this 27th day of May 2005, I served a true and correct copy of the foregoing by delivering the same to each of the following individuals by the method indicated below, addressed as follows:

Mr. Karl J. Dreher Director Idaho Department of Water Resources 322 East Front Street P.O. Box 83720 Boise, ID 83720-0098	____ U.S. Mail ____ Facsimile ____ Overnight Mail __✓__ Hand Delivery ____ E-mail
Gregory Kaslo Blue Lakes Trout Farm P.O. Box 1237 Twin Falls, ID 83303-1237	__✓__ U.S. Mail ____ Facsimile ____ Overnight Mail ____ Hand Delivery ____ E-mail
Daniel V. Steenson, Esq. Ringert Clark, Chartered 455 S. Third Street P.O. Box 2773 Boise, ID 83701-2773	__✓__ U.S. Mail ____ Facsimile ____ Overnight Mail ____ Hand Delivery ____ E-mail
Cindy Yenter Watermaster – Water District 130 Idaho Department of Water Resources Southern Regional Office 1341 Fillmore Street, Suite 200 Twin Falls, ID 83301-3380	__✓__ U.S. Mail ____ Facsimile ____ Overnight Mail ____ Hand Delivery ____ E-mail
Frank Erwin Watermaster – Water District 36 2628 South 975 East Hagerman, ID 83332	__✓__ U.S. Mail ____ Facsimile ____ Overnight Mail ____ Hand Delivery ____ E-mail

Michael C. Creamer

Attachment A
2005 Replacement Water Sources

Source	Acre-Feet
FMC Lease	6,820
New Sweden Irr. Dist.	15,000
Peoples Canal Co.	3,000
Snake River Valley Irr. Dist.	2,000
Grindstone-Butte, et al. (High-lift exchange)	47,970*
United Water Idaho (High-lift exchange)	9,833**
Subtotal – Surface water supplies	84,623
WD 120 Dry-Year Leasing	2,522***
Subtotal – Above Milner water	87,145

* Based on total 2005 lease of 58,500 AF at 82% exchange credit from USBOR. Exchange Agreement with USBOR is pending.

** Based on total 2005 lease of 11,992 AF at 82% exchange credit from USBOR. Exchange agreement with USBOR is pending.

*** Eight separate dry-year lease agreements affecting 1,261 total acres in Bingham and Power Counties.

Attachment B
NSGWD Conversions, their locations, and historical deliveries.

Projects Online in 2002

				Total Water Right CFS	Total Water Right Acres
100070	36-07376	Veenstra, Frank	07S 14E 17 NESWSW	2.75	110.0
100074	36-08333	Smith, Ronnie D.	07S 14 E 20 SWNE	3.66	183.0
100072	36-02160A	Smith, Ronnie D.	07S 14E 18 NENW	1.78	96.0
100536	36-02497	Strickland, Evelyn G.	08S 15E 31 NENENW	0.82	41.0
100465	36-072910	Hubbard, Edward & Geneva	08S 14E 35 NENENE	1.04	52.0
100446	36-04151A	Box Canyon Dairy	08S 14E 25 NESWSE	0.36	18.0
100447	*36-04117	Box Canyon Dairy	08S 14E 25 NWNWSW	0.50	25.0
100512	36-08000	Wert, Loren	08S 15E 22 SWSESW	0.80	40.0
100521	36-07617	Jerome Cheese/Davis Family Idaho	08S 15E 26 NENWSE	10.00	405.0
100523	36-07617	Jerome Cheese/Davis Family Idaho	08S 15E 26 SWNWSW	0.00	0.0
100845	36-02316	Standing Hat Ranch Inc.	09S 16E 06 SENESW	2.40	120.0
100847	36-02316	Standing Hat Ranch Inc.	09S 16E 07 NENWNW 1	2.40	175.0
100488	*36-07782	Church of Jesus Christ Latter (5)	08S 15E 08 NESWSW	2.43	132.0
100489	**36-02503A	Rojas, Wilma L.	08S 15E 09 SENWNW	0.34	17.0
100476	36-02666	Bettencourt, Luis	08S 15E 02 NWNENW 3	3.00	168.0
100477	36-15174A	Bettencourt, Luis	08S 15E 02 NWNWNE	3.08	154.0
100478	36-07499A	Bettencourt, Luis	08S 15E 02 SESENE	2.26	113.0
100894	36-02539A	Roth, James	09S 18E 17 NWSENE	3.19	161.0
100582	36-02474A	De Kruyf Dairy	08S 16E 28 SENWSE	2.11	163.0
1001134	36-07288A	McReits LLC (formerly Beukers)	08S 16E 20 NENWSW	4.58	229.0
100589	36-16187	Ted Miller Dairy	08S 16E 31 NESENE	5.72	130.0
700054	37-08005B	Sawtooth Sheep Co. Inc.	06S 15E 31 SESW	9.03	494.0
				62.25	3026.0

* Have not needed to use any conversion water in the past but will be using water in 2005.

** Has got some water in the past year after doing pipe work, but ditch rider failed to document this delivery.

Projects Online in 2003

				TOTAL WATER RIGHT CFS	TOTAL WATER RIGHT ACRES
100073	36-07156	Vader, Orval E.	07S 14E 19 NESENE	2.56	190.0
100078	36-07569	Veenstra, Frank/V&L Dairy	07S 14E 21 NENESW	6.02	302.0
100071	36-07666A	Veenstra, Frank	07S 14E 17 SESENE	1.64	60.0
100064	36-07341	Veenstra, Frank/Wellard, Larry	07S 14E 04 SWSWNE 2	2.06	22.0
100829	36-02412C	Canyonside Dairy	09S 15E 01 NENWSW	5.14	550.0
100830	36-02412C	Canyonside Dairy	09S 15E 01 SENWNW 4	0.00	0.0
100831	36-02412C	Canyonside Dairy	09S 15E 02 SENWSE	0.00	0.0
100518	36-07352	Jerome Cheese/Davis Family Idaho	08S 15E 25 NWSWNW	2.05	151.0
100514	36-07617	Jerome Cheese/Davis Family Idaho	08S 15E 23 SENWSE	10.00	214.0
100509	36-02290	Dimond, Gary B. & Ruth P.	08S 15E 20 NWNW	1.87	101.0
100083	***36-07260A	Verbree Jr., Jack	07S 14E 23 NENWNE	1.40	120.0
100468	36-02426	Connor, Keith A.	08S 14E 35 SWSESE	1.47	124.0
				34.21	1834.00
		Flood Control Sites			
		PC-C Pond	09S 20E 28	0.00	
		C-17 Pond	09S 20E 28	0.00	
		C-32 Pond	09S 20E 29	0.00	
		C-53 Pond	09S 20E 29	0.00	
		F Pond	09S 19E 14	0.00	
		J-3 Pond	09S 19E 15	0.00	
		N-34 Pond	09S 19E 16	0.00	
		7-11 Pond	09S 19E 17	0.00	
		Z Pond	06S 13E 14	0.00	
		Visser Pond	06S 14E 32	0.00	
		Erwin Pond	06S 14E 32	0.00	
		Duck X-1 Pond	07S 15E 34	0.00	
		Sugarloaf	08S 18E 26		
		Verbree W-37	07S 14E 25		
		Janss W-40	07S 14 E 26		
		Southfield Pond	08S 14E 13		
		Sandy Pipeline	08S 14E 05	32	1600

*** Have ability to use conversion water but have a lot of their own shares and have not had to use any conversion water.

Projects Online in 2004

				Total Water Right CFS	Total Water Right Acres Paid For
100541	36-02067	K & W Dairy	08S 15E 32 NENWNW	12.00	1010.0
100127	36-07207A	Ruby, Kenneth E.	07S 15E 29 NWNENE	2.67	134.0
700035	37-07805	Borchard, John	06S 14E 32 SWSE	4.18	304.0
700036	37-07343	Ravenscroft, Bryan	06S 14E 32 NESENW	1.80	90.0
100181	*36-02294	Bolich, Rodney E. & Stanley D.	07S 18E 31 SENESW	9.02	640.0
101073	36-02444	Huettig Brothers	10S 20E 15 SWSESE	3.60	160.0
100497	36-07576	Brandsma Dairy	08S 15E 13 NESESW	2.80	140.0
100535	36-07214	Anderson, Kenneth C.	08S 15E 30 SWSESW	2.45	144.0
100624	36-14649	Benedictine Monks of Idaho Inc.	08S 17E 25 NENESW	6.17	425.0
100644	**36-02359	Henry Farms	08S 18E 34 NESENW	0.00	0.0
100891	36-02513	Henry Farms	09S 18E 12 NWNWNE	4.00	286.0
100538	**36-02493	Fleming, Bill C. & Pamela	08S 15E 31 NWSESE	0.00	0.0
100561	36-07342	Johnson, Jr., Elmer & Judy	08S 15E 35 SWSWNW	3.12	231.0
100201	36-07714A	Dewit, Neil & Melinda	08S 15E 27 NENENW	2.79	120.0
100524	36-07714B	Dewit, Neil & Melinda	08S 15E 27 SENWSW	1.83	144.0
100554	36-02858	Dewit, Neil & Melinda	08S 15E 34 NESENW	1.23	80.0
100158	36-07145	Richard Trail Trust	07S 16E 32 NWNWSE	2.45	160.0
100528	36-07310	Wert, Wayne K.	08S 15E 28 SENENE	2.56	144.0
100480	36-02507	Hirai, Jack J. or Kunie	08S 15E 04 NENESE	1.38	75.0
100897	36-07817	Harms, Boyd L.	07S 14E 27 NESENE	0.45	22.0
				64.50	4309.0

9169 Acres 2002-2004

* ½ done in 2005.

** Did not do.

Deliveries & Recharge
Groundwater Users Running Water Through NSCC System
2002

	May	June	July	August	September	October
Luis Bettencourt		96	124	217.00	210	60
Si-Ellen	6	75	55	55	20	0
John Beukers		60		124.00	20	0
Loren Wert			18.6	18.60	18	7.2
Ed Hubbard			1.4	3.50	1.4	0
Box Canyon (Strickland)		3	24	14.00	3	0
Jerome Cheese		22.5	55	50.00	36	0
Jerome Cheese			45.5	102.50	62.7	0
Ron Smith		43.8	45.26	45.26	35.04	
*Tim let the water run in sump hole when Ron wasn't using **3-day recharge***					1.38	21.9 **15-day recharge**
Ron Smith	23.2	43.5	44.95	44.95	43.5	
Frank Veenstra		16.8	17.36	17.36	10.64	
*Tim let the water run in the sump hole when Frank wasn't using **10-day recharge***					5.6	6.4 **15-day recharge**
Frank Veenstra		17.7	18.29	18.29	11.21	
*Tim let the water run in sump hole when Frank wasn't using **10-day recharge***					5.9	8.85 **15-day recharge**
Frank Veenstra		20.7	20.7	20.7	18.63	
*Tim let the water run in sump hole when Frank wasn't using **3-day recharge***					2.07	10.35 **15-day recharge**
John Faulkner		41.7	43.09	43.09	41.7	20.85
Wilma Rojas		4.68	8.05	8.06	7.8	0
Standing Hat	?????					
LDS Church	*No water used*					
Calvin Dekruyf	*No water used*					
May Farms	*No headgate*					
Jack Verbree W-37					105	75
Peter Janss W-40					105	75
	28.2	445.38	521.21	782.31	764.57	287.55

3262.22

x 2

5,524.44 a/f

Water delivered October 19th through around 27th 2002

Southfield Pond	W-09	27
Sandy Pond	W-26	225
Nature Conservancy	W-28	52
Jack Verbree	W-37	40
Duck Pond	X-1	40
Tuttle Pond (above State Pk)	W	28
Smith Pond	W	21
		433

2003 Groundwater Users Running Water Through NSCC System Water Delivery Only

	April	May	June	July	August	September	October
Luis Bettencourt		147.00	200.00	217.00	211.80	178.00	89.00
Si-Ellen		6.00	60.00	75.02	75.02	6.00	
John Beukers							
Loren Wert		9.50	15.00	18.00	18.60	18.00	6.00
Ed Hubbard		27.90	27.00	31.90	27.90	27.00	9.00
Box Canyon (Strickland)							
Jerome Cheese		71.94	106.30	139.50	119.97	84.30	3.00
Jerome Cheese		30.00	6.75	77.60	77.50	46.50	1.50
Jerome Cheese		58.00	107.00	123.50	100.00	75.00	26.00
May Farms			36.00	62.00	62.00	60.00	20.00
Keith Connors		19.22	18.60	19.22	19.22	18.80	6.20
Gary Dimond		6.00	20.00	34.00	31.00	30.00	10.00
K & W Dairy		144.00	160.00	185.00	155.00	180.00	40.00
Ron Smith			37.96	45.26	45.26	5.84	
Ron Smith			39.42	45.26	45.26	5.84	
Ron Smith		5.25	58.00	62.00	62.00	60.00	
Tom Price		1.50	30.00	24.00	45.00	30.00	12.00
Billingsley Creek		31.00	30.00	26.00	31.00	30.00	12.00
Frank Veenstra		18.00	150.00	124.00	124.00	120.00	
Frank Veenstra					12.00	50.00	12.00
Frank Veenstra			60.10	57.35	57.35	3.70	
Frank Veenstra				25.42	25.42	1.64	
Frank Veenstra			19.68	25.42	25.42	1.64	
Frank Veenstra							
John Faulkner		31.97	40.31	43.09	43.09	26.41	
	0	607.38	1,297.12	1,452.04	1,445.87	1,068.47	245.70

6,116.62
x 2.00
12,233.04 af

Recharge Only
2003 Groundwater Users Running Water Through NSCC System Recharge Only

	April	May	June	July	August	September	October
PC-C Pond – Hazelton (Recharge)						37.00	35.00
C-17 Hazelton (Recharge)						114.00	68.00
C-32 Hazelton (Recharge)						64.00	84.00
C-53 Hazelton (Recharge)						93.00	75.00
F Recharge		46.50	45.00	46.50	46.50	45.00	22.50
J-3 Recharge		46.50	45.00	46.50	46.50	45.00	22.50
N-34 Recharge		31.00	30.00	31.00	31.00	30.00	15.00
7-11 Recharge						50.00	95.00
John Faulkner		31.97	40.31	43.09	43.09	26.41	
Visor Pond Split (recharge)					28.00	258.00	140.00
Erwin Pond (recharge)					21.00	90.00	70.00
Soutfield Pond				17.50	10.00	90.00	56.00
Calvin Dekruyf							
"z" Hole-Derk							140.00
Duck Pond x-1						40.00	28.00
Sandy Ponds w-25	234	685.00	804.00	702.00	898.00	859.00	406.00
Sugar Loaf Recharge		91.00	210.00	217.00	107.00	210.00	126.00
Jack Verbree					6.00	45.00	24.00
W-37		62.00	115.00	124.00	124.00	120.00	48.00
Peter Janes W-40		113.00	120.00	72.00	64.00	75.00	48.00
	234	1,086.97	1,409.31	1,289.58	1,445.09	2,293.41	1,503.00

9,271.37

x 2.00 1,9835

18,542.70 af

2004 Groundwater Users Running Water Through NSCC System Water Delivery Only

	April	May	June	July	August	September	October
Luis Bettencourt		39.50	110.00	95.20	86.80	61.61	
Brandsome Dairy		2.80	52.00	55.28	53.32	5.60	
Trail Est.		5.00	5180	74.16	67.20	22.40	
Jack Hirai		18.00	45.00	35.70	32.55	21.00	
Southfield Pond	18						
Ken Rudy			13.50	49.40	52.20	95.00	
W-26	524	954.00	730.00	757.00	926.00	594.00	
Henry Farms		34.00	60.00	47.60	43.40	4.20	
Priory		15.00	90.00	71.40	167.40	44.40	
Priory			55.00	71.40		42.00	
Si-Ellen			42.00	71.40	74.40	39.90	
DeKruyf Dairy			53.90	49.87	49.22	44.94	
Ken Anderson	3	59.40	73.50	46.68	66.34	38.52	
John Beukers							
Canyonside		112.00	120.00	134.00	124.00		
Canyonside						67.00	
Canyonside							
K & W Dairy			150.00	155.00	155.00	46.00	
Loren Wert	8.4	18.60	18.00	16.85	16.43	11.66	
Wayne Wert		30.00	60.00	8.50	38.25	18.00	
DeWit Dairy							
Ed Hubbard							
Box Canyon (Strickland)	4.3	13.33	12.90	13.33	13.33	1.72	
Jerome Cheese	22.5	149.50	195.00	175.25	137.42	105.82	
Jerome Cheese	37.5	20.00	75.00	70.00	62.50	73.00	
Jerome Cheese	63.0	95.50	123.00	101.60	51.50	43.00	
Elmer Johnson	4.72		84.96	128.32	124.00	68.00	
Standing Hat	71.6	142.50	95.40	67.40	89.90	63.80	
May Farms	19.2	37.20	36.00	37.20	37.20	4.80	
Keith Connors							
Gary Dimond	1.53	15.81	15.30	15.81	15.81	9.69	
Frank Veenstra		76.00	120.00	124.00	124.00	8.00	
Frank Veenstra							
Boyd Harms					10.50	5.46	

	April	May	June	July	August	September	October
Ron Smith							
W-37 Hole		93.00	90.00	46.00	82.00	4.00	
Janss Hole		99.00	132.00	26.00	62.00	4.00	
Paul Borchard		19.50	56.40	98.33	32.23		
Tom Price							
Billingsley Creek			28.00	10.00			
Ron Smith			29.00	10.15			
Ron Smith		11.65	44.60	50.38	42.16	5.44	
Vader		51.00	57.10	94.98	94.85	67.32	
Vader			25.00	37.25	22.61	26.18	
Frank Veenstra		18.29	44.09	34.00	31.00	22.00	
Frank Veenstra		17.36	31.76	37.95	38.13	13.53	
Frank Veenstra		21.39	80.44	60.75	54.67	7.08	
Frank Veenstra			38.20	25.00	21.76	15.40	
Vernon Ravenscroft			20.00	20.70	21.70	14.70	
Vernon Ravenscroft			16.80	22.30	17.38	11.76	
Sawtooth – John Faulkner		100.38	192.48	197.34	195.30	122.10	
Rodney Bolich		25.90	111.00	93.10	86.80	58.80	
Rodney Bolich							
Hueftig Brothers					67.50	75.00	
	777.76	2,296.74	3,517.13	3,338.56	3,458.89	1,935.92	

	13,398.09	1,986.32	
	26,782.18	3,973.64	a/f
	8,037.85	1,192.09	30% loss rate
Apr-May-Jun-Jul-Aug a/f	34,829.63	8,165.73	September a/f with Loss Ratio
		3.00	chg per a/f
Apr-May-June-July-Aug –		39,895.67	Total a/f with Loss Ratio

Description of Analysis for Blue Lakes Order
May 30, 2005

This document briefly describes the procedures used to determine the annual steady state reach gain benefits to the Devils Washbowl - Buhl (DWB-BUL) subreach of the Snake River from current and planned mitigation activities undertaken by the Magic Valley and North Snake Ground Water Districts (MVGWD and NSGWD). These mitigation activities include deliveries of surface water to lands formerly served with ground water and curtailment of pumping on other ground water supplied lands. These activities are more fully described in the Ground Water District's Plan for Providing Replacement Water. Electronic files used in the analyses of subreach gains are on the enclosed CD and referenced herein as appropriate.

The analyses were carried out in part using tools and data obtained from researchers at the Idaho Water Resources Research Institute (IWRRI). The tools used were: (1) Steady State Conversion Tool – spreadsheet for estimating the steady state impact of supplying additional water to various regions of existing irrigation on the Eastern Snake Plain Aquifer, and (2) a steady state flat water table version of the Eastern Snake Plain Aquifer (ESPA) model. Results of CREP scenarios run by the IWRRI researchers were also used. The Conversion Tool was used for the analysis of water deliveries to existing conversion sites in the North Snake Ground Water District (NSGWD). Model simulations were used for the analysis of canal seepage, and curtailments in Water District 130. CREP scenario results were used as estimates of reach gains from planned future mitigation activities.

Analyses Using the Steady State Conversion Tool

The Steady State Conversion Tool was used to determine the steady state DWB-BUL reach gain occurring from conversions in the NSGWD. The conversions analysis treated canal seepage separately from water delivered to the conversion sites themselves. Canal seepage of 30% was assumed, consistent with delivery accounting done by the North Side Canal Company. Seepage was subtracted from the total diversion and the remainder was treated as delivery to the conversion sites and was input to the Steady State Conversion Tool workbook. The canal seepage portion of the diversion was analyzed separately using the ESPA model as described later in this document.

The workbook containing this analysis is *ReplacementSupply_SS_Summary1_NSGWD.xls* and can be found in the *AtSiteConversions* directory on the attached CD. The workbook contains the input data used to calculate the reach gains. Other than entering the water supply input data, no changes were made to the workbook versions obtained from IWRRI.

Analyses Using the Steady State ESPA Model

The steady state ESPA model was used to calculate steady state reach gain benefits in the DWB-BUL reach occurring from canal seepage, and curtailments. Analysis for canal seepage and curtailments were carried out separately.

Changes were only made to the name file (file extension .NAM) to facilitate identification of different model runs. No other modifications were made to the version of the ESPA model obtained from IWRRI.

Canal Seepage

Canal seepage was assumed to be 30% of the total amount of water diverted at Milner to serve existing conversions and to supply the Sandy Pipeline project. All seepage was assumed to occur in the North Side Canal. Seepage was distributed spatially among model cells intersected by the canal.

Files corresponding to the canal seepage analysis are in the *CanalSeepage* directory. The well file is *ESRP_WEL_Dbld_HistoricalMitigation2005.txt*.

Curtailments

Curtailments of ground water pumping of up to10% were assumed to occur in 2005 in the MVGWD and NSGWD and continuing as a CREP program becomes fully operational by 2008. Benefits from 10% curtailment were scaled linearly from results of simulating complete (i.e., 100%) curtailment of pumping in each of those districts. Benefits from other levels of curtailment can be similarly scaled. The 100% curtailment analysis used the cell stress file created by IWRRI for its analysis of curtailment of post-1870 ground water rights. This file was modified to reflect pumping only in the irrigation season, and then screened using GIS to exclude stresses outside the two districts' boundaries. It was then input to the model to determine effects of curtailment in just those districts. This procedure implies that the curtailment is uniformly distributed across the districts.

Curtailment specific model files can be found in *Curtailments* directory on the attached CD. The name file in this directory contains a generic well file, named run.WEL, which needs to be substituted with an appropriate well file (see file README.txt in this directory for details).

All MODFLOW simulations were carried out using MODFLOW-2000 (U.S. GEOLOGICAL SURVEY MODULAR FINITE-DIFFERENCE GROUND-WATER FLOW MODEL) Version 1.10 07/26/2002. The executable code (*MF2K1.EXE*) is in directory *MODFLOWExecutable*.

CREP Scenario Results

Results of two CREP scenarios were published in draft form by IWRRI in January, 2005, as IWRRI Technical Report 05-003. The two scenarios depicted two different spatial distributions of CREP acreage, a uniform distribution across all lands eligible to participate in CREP and a "near-river" distribution reflecting somewhat greater participation of eligible lands close to the Snake River. The uniform distribution resulted in a steady-state gain in the DWB-BUL reach of 27,857 acre-feet per year (af/y) or 38.5 cubic feet per second (cfs). The near-river distribution resulted in a steady-state gain of 42,853 af/y or 59.2 cfs.

CREP program implementation was assumed to begin in 2006 with 1/3 of enrollment being added each year over the 2006-2008 period. Full enrollment of 100,000 acres was assumed by 2008. Steady state reach gain benefits were scaled from the full implementation benefits calculated by IWRRI using 33% in 2006, 67% in 2007 and 100% in 2008.

Supporting Data Files

Files used or created as part of the GIS analysis supporting the calculation of reach gain benefits are in directory *GISSupportFiles* on the enclosed CD. A description of these files is given below.

GIS Files

ArcView Shape Files (Map Projection IDTM NAD 27, see .prj files for specs):

Magic Valley and North Snake Irrigation District Boundaries

NorthSnakeAndMagicValleyIDs_region.*

Irrigated Model Cells Intersected by Irrigation District Boundaries

MVIrrigationCells_region.*
NSIrrigationCells_region.*

Model Cells Intersected by the North Side Canal

NorthSideCanalCells_region.*

PDF Files:

Map of Model Grid Cells affected by the reach gain benefit modeling

AllRechargeCellsIllustrationMap.pdf

Includes: 1) the canal recharge cells
2) the irrigation district cells

Map showing Model Cells Intersected by the North Side Canal

CanalRechargeCellsMap.pdf

Source: Figure 2 from "Snake River Plain Aquifer Model Scenario: Managed Recharge in the Thousand Springs Area "Managed Recharge Scenario", November, 2004, B. A. Contor, D. M. Cosgrove, G. S. Johnson, N. Rinehart, A. Wylie, Idaho Water Resources Research Institute, University of Idaho, for the Idaho Department of Water Resources with guidance from the Eastern Snake Hydrologic Modeling Committee (IWRRI Technical Report 04-002)

Excel Files:

Tables of the Cell Stress values before and after modification to account for only the irrigated lands within the district being modeled.

PumpingCalculationsByDistrict.xls

Year	At Site Conversions		Canal Seepage From Water Deliveries to Conversion Sites and Sandy Pipeline	
	AF/yr	cfs	AF/yr	cfs
2005	5,622	7.8	2,100	2.9
2006	1,102	1.5	893	1.2

Attachment D

Devils Washbowl to Buhl Reach Gain in 2005 from 2002-2004 Mitigation Activities

Activity	Reach Gain	
	AF/yr	cfs
At site conversions in the NSGWD	1,569	2.2
Canal seepage from deliveries to conversion sites and the Sandy Pipeline project	1,342	1.9
Pumping reductions in NSGWD and MVGWD	626	0.9
TOTAL	**3,537**	**4.9**

Attachment E

Steady State Reach Gain Benefits
Devil's Washbowl - Buhl subreach
from Replacement Water and Related Efforts in
Magic Valley and North Snake Ground Water Districts

Activity	Steady State Reach Gain	
	AF/yr	cfs
Canal seepage from water deliveries to conversion sites and Sandy Pipeline	5,117	7.1
Foregone pumping and surface water irrigation at conversion sites	8,191	11.3
10% curtailment 2005-2007	10,704	14.8
Total (2005 actions at steady state):	24,012	33.2
CREP (fully operational in 2008)		
uniform distribution of acreage	27,857	38.5
near-river distribution of acreage	42,853	59.2

Steady-State Subreach Gain by Year (cfs)
Compared to Requirements of May 18, 2005, Order

Year	Req't	Gain
2005	10	33.2
2006	20	33.2
2007	30	33.2
2008	40	56.9-77.6
2009+	51	56.9-77.6

Attachment F